

New England Biolabs Product Specification

Product Name: NEBuffer™ 4
Catalog #: B7004S
Concentration: 10X Concentrate
Shelf Life: 36 months
Storage Temp: -20°C
Composition (1X): 50 mM Potassium Acetate, 20 mM Tris-acetate, 10 mM Magnesium Acetate, 1 mM DTT, (pH 7.9 @ 25°C)
Specification Version: PS-B7004S v1.0
Effective Date: 13 Sep 2017

Assay Name/Specification (minimum release criteria)

Conductivity (buffers/solutions) - The conductivity of 10X NEBuffer 4 is between 36 and 54 mS at 25°C.

Endonuclease Activity (Nicking, Buffer) - A 50 µl reaction in 1X NEBuffer 4 containing 1 µg of supercoiled PhiX174 DNA incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

Functional Testing (Restriction Digest, BSA, Buffer) - A 50 µl reaction in 1X NEBuffer 4 plus 100 µg/ml Bovine Serum Albumin containing 1 µg of Lambda DNA and 1 unit of MscI incubated for 1 hour at 37°C results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis.

Functional Testing (Restriction Digest, BSA, Buffer) - A 50 µl reaction in 1X NEBuffer 4 plus 100 µg/ml Bovine Serum Albumin containing 1 µg of Lambda dam- DNA and 1 unit of ClaI incubated for 1 hour at 37°C results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis.

Non-Specific DNase Activity (16 hour, Buffer) - A 50 µl reaction in 1X NEBuffer 4 containing 1 µg of PhiX174-HaeIII DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

pH (buffers/solutions) - The pH of 10X NEBuffer 4 is between pH 7.8 and 8.0 at 25°C.

RNase Activity (Buffer) - A 10 µl reaction in 1X NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by fluorescent detection.



Date 13 Sep 2017

Derek Robinson
Director of Quality Control

